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ABSTRACT

As behavioral approaches for the treatment of clinically significant fears became more accepted, the same techniques began to be applied to normal youngsters' reactions to highly stressful situations in an attempt to prevent the development of excessive fears in children. Although there is widespread acceptance of preventative approaches to help youngsters cope with stressful experiences, a review of the research literature suggests that prevention programs are not effective with all children. In fact, they may make some youngsters worse. The effectiveness of any prevention program depends upon (1) what is done to the child in the form of preparation; (2) what the characteristics are of the child receiving treatment; (3) what the characteristics are of the physician, dentist, etc., who is treating the child; and (4) what is expected of the child during the stressful experience. Topics for further research include age differences in children's coping strategies, interaction between a child and his or her dentist or physician, parents' influence on their children's ability to cope, and the development of preparation programs appropriate for the specific behaviors expected of the target child. (Author/RH)

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ANXIETY IN CHILDREN: RECENT ADVANCES IN PREVENTION

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Abstract

As behavioral approaches for the treatment of clinically significant fears became more accepted, the same techniques began to be applied to normal youngsters' reactions to highly stressful situations. This is clearly an attempt to prevent the development of excessive fears in children. Although there is widespread acceptance of preventative approaches to help youngsters cope with stressful experiences, a review of the research literature suggests that prevention programs are not effective with all children. In fact, they may make some youngsters worse. The effectiveness of any prevention program depends upon (1) what is done to the child in the form of preparation; (2) what are the characteristics of the child receiving treatment; (3) what are the characterisitics of the physician, dentist, etc, who is treating the child; and (4) what is expected of the child during the stressful experience. Often these variables interact, producing different results depending upon what is done, to whom, by whom, and for what purpose.

As behavioral approaches for the treatment of clinically significant fears became more accepted, the same techniques began to be applied to normal children's reactions to highly stressful situations (e.g. having a cavity filled or having an operation). This was clearly an attempt to prevent the development of excessive fears in youngsters who were about to be exposed to a potentially traumatic event. The reports of Melamed and Siegel (1975) and others in the mid 1970's (Vernon & Bailey, 1974; Johnson & Machen, 1973; Melamed et al., 1975) were so convincing that prehospitalization preparation programs are now the rule rather than the exception (Peterson & Ridley-Johnson 1980).

In their 1975 study, Melamed and Siegel compared the effectiveness of a modeling film in which a young boy received an operation to a control film which had nothing to do with the hospital. Significant effects were found on self-report, physiological and behavioral measures of anxiety in favor of the modeling treatment manipulation. Although this is certainly a classic study in the field, the last 6-7 years have been characterized by increasingly sophisticated studies of who is best helped by what approach. It is certainly true that no one modeling treatment program will benefit all children. We still have much to learn about this sometimes powerful technique. Although we can be pleased with the increased acceptance of prehospitalization preparation programs, we must remain concerned that the large-scale, acritical use of such programs may harm some children as well as help others.

What I would like to do today is discuss some of the most relevant parameters that are being and need to be studied in this area. I will confine my remarks primarily to studies preparing children for painful medical or dental procedures. However, the issues raised may be applicable to other anxiety producing events (e.g. mother-child separation, going to school for the first time, etc.) as well. The issues I would like to discuss relate to four topics: (1) what is done to the child in the form of preparation; (2) what are the characteristics of the child receiving the treatment; (3) what are the characteristics of the physician, dentist, etc. treating the child; and (4) what is expected of the child. As we shall see many of these topics interact producing different results depending upon what is done, to whom, by whom, and for what purpose.

It has never been entirely clear what aspects of a modeling preparation program are most critical to its success. Is it the information provided about the medical or dental procedure the child is about to experience? Does the film communicate to the child ways to effectively cope with an uncomfortable event? Does the model attract the child's attention, permitting him to learn more about the procedure than he might otherwise? Does the experience of observing another child serve as a sort of catharsis, increasing arousal during the observational session so that the child is less aroused during the actual treatment procedure?

We know that models close in age to the child are more effective. We also know that fearful models are not as powerful as coping or mastery models. It is unclear whether coping or mastery models are more influential (Johnson & Melamed, 1979). Klorman et al. (1980) explored this issue in young patients about to receive a restorative dental procedure. They found that coping and mastery models were equally effective and were more effective than an unrelated control film. However, this was only true for inexperienced children. Youngsters with prior experience showed no positive effects from the modeling manipulation at all.

Melamed et al. (1978) evaluated the effects of a modeling film by comparing it to a demonstration film that provided the same information. Both long (10 min.) and short (4 min.) demonstration or modeling films were compared. While the modeling films were generally more effective than the demonstration films, their effectiveness was very much dependent on both the age of the child and prior experience with dental restoration procedures. Six to eight year-olds were more clearly effected by the modeling manipulation than 4-6 or 8-11 year-olds. This is probably due to the fact that the model used in the film was a 7-year-old, and therefore was closest in age to the 6-8 year-old age group. The child's previous experience also interacted with the treatment manipulations. Children without prior experience were generally more disruptive than youngsters with prior experience. Inexperienced youngsters did best when given prior exposure to a long demonstration film or a short modeling film. They seemed to be sensitized by exposure to a short demonstration tape. In contrast, experienced youngsters benefited most from a long modeling film, suggesting that they are ready to process the maximum amoung of information made available to them.

These studies make several important points. First, they provide examples of how different aspects of a modeling preparation program may be studied. While they offer no firm conclusions, they highlight the importance of investigations that seek to delineate what are the critical components of modeling treatment approaches. Second, they underline the crucial role that characteristics of the child play in the determination of what treatment is most appropriate for whom. Both age and previous experience repeatedly surface as important parameters. Younger and inexperienced subjects are typically more disruptive and anxious than their older, experienced peers (Venham et al., 1981; Wolfer & Visintainer, 1975; Wolfer & Visintainer, 1979; Klorman et al., 1980), suggesting that different treatment programs may prove successful for different treatment groups.

Teaching children to effectively cope with an unpleasant medical or dental procedure is certainly one of the goals of most preparation programs. Yet, we know very little about what children naturally do to cope successfully with stress. If we could identify techniques that children actually use effectively (as opposed to teaching youngsters techniques that adults believe are effective), we might be able to better prepare children for

aversive but necessary experiences. It is likely that children's coping strategies vary depending upon age (and perhaps sex). This seems to be a particularly important area in need of research scrutiny.

Not only do we need to learn more about how best to prepare children who differ with respect to age, previous experience, and other relevant characteristics, we also need to explore the interactions between the dentist or physician and the child. This is a new area of investigation that has produced some very interesting results by both Weinstein and his colleagues (1982a,b) and Melamed and her colleagues (in press). Both groups of researchers have studied the interaction between the dentist's behavior toward the child and the child's response. In the Melamed et al. (in press) investigation, dentists used positive reinforcement only, punishment only, positive reinforcement combined with punishment, or information alone in their management attempts with children receiving a restoration. Punishment alone resulted in poorer child cooperation, particularly in the first restorative session (all children's cooperation improved across sessions). Child characteristics were again important determinants of who was particularly affected by the punishment only condition. Youngsters older than 7½ years, those who had previous experience with restorative procedures, and those who had low initial levels of fear were most negatively affected.

A related topic is the role the parent plays in helping or hindering the child's efforts to cope. Earlier work by Johnson and his colleagues (Johnson & Baldwin, 1968; Johnson & Baldwin, 1969; Koenigsberg & Johnson, 1972; Johnson, 1971) suggested that maternal anxiety is associated with poor cooperation in the child during a dental visit. This relationship was particularly true for younger children (3-7 years) undergoing an initial dental exam. Other investigators have focused on the effect of mother absence or presence on the child's behavior. While Shaw & Routh (1982) found that 5 year-olds, who received an injection generally behaved better when their mothers were absent, others have found that the increased anxiety associated with a mother's absence can be counterproductive especially for youngsters under 5 years of age (Franke et al., 1962; Vernon et al., 1967). However, there is a great deal more we need to know about how parents may best help their youngsters cope with a distressing experience.

Finally, clinicians and researchers need to consider what is expected of the child when developing appropriate preparation programs. Most investigations have focused on situations in which the child must remain relatively passive (e.g. cavity restorations, anesthesia induction). There are other situations in which the child must behave in a particular way; sitting quietly is not sufficient. For example, youngsters with insulin-dependent diabetes must receive daily insulin injections for survival. Teaching youngsters to administer these injections requires not only the child's cooperation (and presumably low levels of anxiety), but also places a demand upon the child to learn a

relatively complex skill. In a recent study by Gilbert, Johnson et al. (1981), a modeling preparation film was used to teach 6-9 year-olds to self-inject insulin. This study as well as many others I previously mentioned, demonstrates the importance of both age, previous experience (and in this study, sex) as variables potentially affecting a modeling film's utility. Overall, there were no effects of the preparation film on anxiety. There was little evidence that the experimental or control children were anxious, presumably because they were so used to receiving injections administered by others. However, the film did appear to influence the youngsters' learning, as measured by observations of their self-injection technique in the natural environment several days later. While older youngsters, girls, and children with some prior experience with self-injection performed more accurately, the modeling film proved to be most effective with older girls. Older girls who saw the film showed greater skill at self-injection than all relevant comparison groups (older girls who saw the control film, older boys who saw the modeling film, and younger girls who saw the modeling film). This study once again highlights the importance of child characteristics in the determination of the effectiveness of preparation programs.

The development of preparation programs to help prevent undue anxiety in children is an innovative application of psychological principles that has gained widespread acceptance. Yet, there is still much to be learned. It is probably best to proceed with enthusiasm but also with caution.

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